UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,033	10/09/2003	W. Bruce Culbertson	200315392-1	3187

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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER
JEAN, FRANTZ B

ART UNIT	PAPER NUMBER
2154	

NOTIFICATION DATE	DELIVERY MODE
07/11/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM
mkraft@hp.com
ipa.mail@hp.com

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *21 April 2008*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☐ Claim(s) *1,5-25 and 29-40* is/are rejected.
7)☒ Claim(s) *2-4 and 26-28* is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some *   c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

This office action is in response to the Appeal Brief filed on 04/21/08. Claims 1-40 are

still pending in the application.

The final office action filed on 12/17/07 has been withdrawn in view of a new prior art.

Claim Rejections - 35 USC § 103

Claims 1, 5-9, 15-25, 29-33, and 39-40 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Boulanger et al. ("Boulanger") US patent number 6,583,808 in

view of Peter Domschitz US PGPUB number 20040064504 hereinafter (Domschitz).

As per claims 1, 16 and 25, Boulanger teaches a method, computer-readable medium

for clustering data in a virtual environment (col. 3 lines 33-45), comprising: determining

a cluster of receiving nodes in said virtual environment (col. 3 lines 46-58), wherein

each of said cluster of receiving nodes have associated values for at least one

clustering parameter that as a set satisfies a test (col. 1 line 65 to col. 2 line 4; col. 2

lines 7-25); generating data stream based on said at least one clustering parameter

(col. 5 lines 39-64); and sending said data stream from a sending node to said cluster of

receiving nodes (see fig 2-4; col. 5 line 39 to col. 6 line 9). However, Boulanger fails to

explicitly detail on a common data stream. It must be noted that the concept of common

data stream is well known and apparent in the art of media streaming for interaction

purposes when multi-player environments are implemented (see Domschitz par 0135).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Domschitz's features to Boulanger's method to allow communication interaction among multiple users. One skill artisan at the time of the invention would be motivated to do so to facilitate user to share the same media session (see par 0135).

As per claims 5 and 29, Boulanger teaches the method of claim 1, wherein data streams associated with said cluster of receiving nodes are substantially similar (col. 6 lines 53-62; col. 5 lines 39-64).

As per claims 6 and 30, Boulanger teaches the method of claim 1, wherein said sending said common data stream further comprises: multicasting said common data stream from said sending node over a communication network to said cluster of receiving nodes to achieve communication network traffic efficiency (the data are multicasted or transferred among the participants col. 5 lines 39-64; col. 2 lines 26-40).

As per claims 7, 17 and 31, Boulanger teaches the method of claim 1, wherein said at least one clustering parameter comprises a view dependent clustering parameter that defines an associated perspective of a receiving node within said virtual environment, wherein each of said cluster of receiving nodes is spatially located in said virtual environment, such that their respective perspectives are similar resulting in said clustering parameter that is shared (col. 4 line 64 to col. 5 line 4; col. 1 lines 23-25).

As per claims 8, 18 and 32, Boulanger teaches a method of claim 1, wherein said at least one clustering parameter comprises a temporal clustering parameter, wherein each of said cluster of receiving nodes require substantially the same frame rate, such that their respective data quality requirements are similar (temporal clustering parameter is inherent in Boulanger because Boulanger discloses motion vector and pattern movement since more camera are provided around the participant, therefore more freedom of movement within the virtual space is permitted col. 3 lines 62-67).

As per claims 9, 20 and 33, Boulanger teaches a method of claim 1, wherein said at least one clustering parameter comprises a spatial clustering parameter, wherein each of said cluster of receiving nodes require substantially the same resolution parameter value, such that their respective data resolution requirements are similar (col. 4 line 64 to col. 5 line 4; col. 1 lines 23-25).

As per claims 15 and 39, Boulanger teaches the method of claim 1, wherein said determining a cluster of receiving nodes further comprises: dynamically changing said test (col. 1 line 65 to col. 2 line 4; col. 2 lines 7-25) for determining said cluster of receiving nodes in said virtual environment in response to changing conditions for computational resources in a communication network supporting said virtual environment and said cluster of receiving nodes (col. 6 lines 10-40; col. 5 lines 19-26).

As per claim 19, Boulanger teaches wherein said frame rate is increased as said cluster of receiving nodes is located closer to said sending node in said virtual environment (col 3 lines 59-67; col. 4 lines 27-46).

As per claim 21, Boulanger teaches wherein said resolution is dependent on a value of importance said sending node is to a receiving node, such that higher values of importance are associated with higher resolution (col. 1 lines 20-50).

As per claim 22, Boulanger teaches the system of claim 16, wherein said virtual environment comprises an N-way virtual collaborative environment (col. 3 lines 18-45).

As per claims 23 and 40, Boulanger teaches a computer system comprising: a processor (222); and a computer readable memory coupled to said processor and containing program instructions that, when executed, implements a method for clustering data, comprising: determining a cluster of receiving nodes among a plurality of receiving nodes (col. 5 lines 32-38), wherein a plurality of varying data streams are generated by a sending node for all of said plurality of receiving nodes depending on an associated value of a parameter for all of said plurality of receiving nodes (col. 5 lines 39-64), and wherein each of said cluster of receiving nodes have associated values for said parameter that as a set satisfies a test such that data streams associated with said cluster of receiving nodes are substantially similar (col. 6 lines 53-62; col. 5 lines 39-64); generating data stream of a sending object associated with said sending node based on

a representative value of said parameter (col. 5 lines 39-64); and sending said data

stream to said cluster of receiving nodes (see fig 2-4; col. 5 line 39 to col. 6 line 9).

However, Boulanger fails to explicitly detail on a common data stream. It must be noted

that the concept of common data stream is well known and apparent in the art of media

streaming for interaction purposes when multi-player environments are implemented

(see Domschitz par 0135).It would have been obvious to one of ordinary skill in the art

at the time of the invention to combine Domschitz's features to Boulanger's method to

allow communication interaction among multiple users. One skill artisan at the time of

the invention would be motivated to do so to facilitate user to share the same media

session (see par 0135).

Claims 10-14, 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Boulanger and Domschitz in view of Elbaz et al. ("Elbaz") US patent number

6,757,005

As per claim 10-11 and 34-35, Boulanger and Domschitz disclose all the limitation of the

claims except the steps of limiting resolution, increasing resolution parameter and

decreasing resolution parameter. Those features are well known in the art multimedia

and videoconference as evidenced by Elbaz col. 5 lines 34-51 and col. 5 line 65 to col.

6 line 4). It would be obvious to one of ordinary skill in the art at the time of the invention

to combine Elbaz resolution parameter with Boulanger's and Domschitz's features to

facilitate bit-rate modification between original stream and output stream. One skill

artisan at the time of the invention would be motivated to do so to achieve rate matching

modification and to facilitate encoding of video signal (Elbaz col. 1 lines 44-60).

As per claims 12 and 36, Boulanger-Domschitz and Elbaz teach the method of claim 11,

further comprising: valuing an importance of said sending node based on whether a

receiving node is gazing at a representation of said sending node in said virtual

environment (Boulanger, col. 3 lines 46-67).

As per claims 13 and 37, Boulanger-Domschitz and Elbaz teach the method of claim 11,

further comprising: valuing an importance of said sending node based on how close to a

center of a monitoring device associated with said receiving node is a representation of

said sending node displayed (see Boulanger col. 2 lines 41-55; col. 4 lines 48-63; col. 5

lines 5-18).

As per claims 14 and 38, Boulanger-Domschitz and Elbaz teach the method of claim 11,

further comprising: valuing an importance of said sending node based on whether said

sending node is speaking (Boulanger, col. 4 lines 1-6).

Allowable Subject Matter

Claims 2-4 and 26-28 are objected to as being dependent upon a rejected base

claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Frantz B. Jean whose telephone number is 571-272-
3937. The examiner can normally be reached on 8:30-6:00   M-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Nathan J. Flynn can be reached on 571-272-1915. The fax phone number
for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
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USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Frantz B. Jean/
Primary Examiner, Art Unit 2154